CLAIMS

What is claimed is:

1. A method of treating a hemolytic disease in a subject comprising administering an anti-C5 antibody to a subject having a hemolytic disease, wherein within 24 hours of said administration there is a reduction in hemoglobinuria.

2. A method as in claim 1 wherein the anti-C5 antibody is selected from the group consisting of h5G1.1-mAb, h5G1.1-scFv and functional fragments of h5G1.1.

3. A method as in claim 1 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 10%.

4. A method as in claim 1 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 25%.

5. A method as in claim 1 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 50%.

6. A method as in claim 1 wherein the subject's platelet count is greater than 40,000 per microliter.

7. A method as in claim 1 wherein the subject's platelet count is greater than 75,000 per microliter.

8. A method as in claim 1 wherein the subject's platelet count is greater than 150,000 per microliter.

9. A method as in claim 1 wherein the subject's reticulocyte count is greater than 80×10^9 per liter.

10. A method as in claim 1 wherein the subject's reticulocyte count is greater than 120 x 10^9 per liter.

11. A method as in claim 1 wherein the subject's reticulocyte count is greater than 150 x 10^9 per liter.

12. A method of restoring nitric oxide (NO) homeostasis comprising administering an anti-C5 antibody to a subject having a hemolytic disease.

13. A method as in claim 12 wherein the anti-C5 antibody is selected from the group consisting of h5G1.1-mAb, h5G1.1-scFv and functional fragments of h5G1.1.

14. A method as in claim 12 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 10%.

15. A method as in claim 12 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 25%.

16. A method as in claim 12 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 50%.

17. A method as in claim 12 wherein the subject's platelet count is greater than 40,000 per microliter.

18. A method as in claim 12 wherein the subject's platelet count is greater than 75,000 per microliter.

19. A method as in claim 12 wherein the subject's platelet count is greater than 150,000 per microliter.

20. A method as in claim 12 wherein the subject's reticulocyte count is greater than 80 x 10^9 per liter.

21. A method as in claim 12 wherein the subject's reticulocyte count is greater than 120 x 10^9 per liter.

22. A method as in claim 12 wherein the subject's reticulocyte count is greater than 150 x 10^9 per liter.

23. A method of reducing hemolysis in a subject having a hemolytic disease comprising administering an anti-C5 antibody, wherein hemolysis is reduced as evidenced by a greater than 50% reduction in lactate dehydrogenase (LDH) levels in the subject's bloodstream.

24. A method as in claim 23 wherein hemolysis is reduced as evidenced by a greater than 65% reduction in lactate dehydrogenase (LDH) levels in the subject's bloodstream.

25. A method as in claim 23 wherein hemolysis is reduced as evidenced by a greater than 80% reduction in lactate dehydrogenase (LDH) levels in the subject's bloodstream.

26. A method as in claim 23 wherein the anti-C5 antibody is selected from the group consisting of h5G1.1-mAb, h5G1.1-scFv and functional fragments of h5G1.1.

27. A method as in claim 23 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 10%.

28. A method as in claim 23 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 25%.

29. A method as in claim 23 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 50%.

30. A method as in claim 23 wherein the subject's platelet count is greater than 40,000 per microliter.

31. A method as in claim 23 wherein the subject's platelet count is greater than 75,000 per microliter.

32. A method as in claim 23 wherein the subject's platelet count is greater than 150,000 per microliter.

33. A method as in claim 23 wherein the subject's reticulocyte count is greater than 80×10^9 per liter.

34. A method as in claim 23 wherein the subject's reticulocyte count is greater than 120×10^9 per liter.

35. A method as in claim 23 wherein the subject's reticulocyte count is greater than 150×10^9 per liter.

36. A method of reducing hemoglobinuria in a subject comprising administering a compound to the subject, the compound being selected from the group consisting of compounds which bind to one or more complement components, compounds which block the generation of one or more complement components and compounds which block the activity of one or more complement components, wherein hemoglobinuria is reduced within 24 hours of administering the compound.

37. A method as in claim 36 wherein the step of administering comprises administering an anti-C5 antibody.

38. A method as in claim 36 wherein the compound is an anti-C5 antibody selected from the group consisting of h5G1.1-mAb, h5G1.1-scFv and functional fragments of h5G1.1.

39. A method as in claim 36 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 10%.

40. A method as in claim 36 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 25%.

41. A method as in claim 36 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 50%.

42. A method as in claim 36 wherein the subject's platelet count is greater than 40,000 per microliter.

43. A method as in claim 36 wherein the subject's platelet count is greater than 75,000 per microliter.

44. A method as in claim 36 wherein the subject's platelet count is greater than 150,000 per microliter.

45. A method as in claim 36 wherein the subject's reticulocyte count is greater than 80×10^9 per liter.

46. A method as in claim 36 wherein the subject's reticulocyte count is greater than 120×10^9 per liter.

47. A method as in claim 36 wherein the subject's reticulocyte count is greater than 150×10^9 per liter.

48. A method of reducing dysphagia in a subject comprising administering a compound to the subject, the compound being selected from the group consisting of compounds which bind to one or more complement components and compounds which block the generation of one or more complement components, wherein dysphagia is reduced within 24 hours of administering the compound.

49. A method as in claim 48 wherein the step of administering comprises administering an anti-C5 antibody.

50. A method as in claim 48 wherein the compound is an anti-C5 antibody selected from the group consisting of h5G1.1-mAb, h5G1.1-scFv and functional fragments of h5G1.1.

51. A method as in claim 48 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 10%.

52. A method as in claim 48 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 25%.

53. A method as in claim 48 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 50%.

54. A method as in claim 48 wherein the subject's platelet count is greater than 40,000 per microliter.

55. A method as in claim 48 wherein the subject's platelet count is greater than 75,000 per microliter.

56. A method as in claim 48 wherein the subject's platelet count is greater than 150,000 per microliter.

57. A method as in claim 48 wherein the subject's reticulocyte count is greater than 80 x 10^9 per liter.

58. A method as in claim 48 wherein the subject's reticulocyte count is greater than 120 x 10^9 per liter.

59. A method as in claim 48 wherein the subject's reticulocyte count is greater than 150 x 10^9 per liter.

60. A method of reducing erectile dysfunction in a subject comprising administering a compound to the subject, the compound being selected from the group consisting of compounds which bind to one or more complement components and compounds which block the generation of one or more complement components, wherein dysphagia is reduced within 24 hours of administering the compound.

61. A method as in claim 60 wherein the step of administering comprises administering an anti-C5 antibody.

62. A method as in claim 60 wherein the compound is an anti-C5 antibody selected from the group consisting of h5G1.1-mAb, h5G1.1-scFv and functional fragments of h5G1.1.

63. A method as in claim 60 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 10%.

64. A method as in claim 60 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 25%.

65. A method as in claim 60 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 50%.

66. A method as in claim 60 wherein the subject's platelet count is greater than 40,000 per microliter.

67. A method as in claim 60 wherein the subject's platelet count is greater than 75,000 per microliter.

68. A method as in claim 60 wherein the subject's platelet count is greater than 150,000 per microliter.

69. A method as in claim 6 wherein the subject's reticulocyte count is greater than 80×10^9 per liter.

70. A method as in claim 60 wherein the subject's reticulocyte count is greater than 120×10^9 per liter.

71. A method as in claim 60 wherein the subject's reticulocyte count is greater than 150×10^9 per liter.

72. A method of reducing thrombosis in a subject comprising administering a compound to a subject, the compound being selected from the group consisting of compounds which bind to one or more complement components, compounds which block the generation of one or more complement components and compounds which block the activity of one or more complement components.

73. A method as in claim 72 wherein the step of administering comprises administering an anti-C5 antibody.

74. A method as in claim 72 wherein the compound is an anti-C5 antibody selected from the group consisting of h5G1.1-mAb, h5G1.1-scFv and functional fragments of h5G1.1.

75. A method as in claim 72 wherein the step of administering comprises administering an anti-C5a receptor antibody.

76. A method as in claim 72 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 10%.

77. A method as in claim 72 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 25%.

78. A method as in claim 72 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 50%.

79. A method as in claim 72 wherein the subject's platelet count is greater than 40,000 per microliter.

80. A method as in claim 72 wherein the subject's platelet count is greater than 75,000 per microliter.

81. A method as in claim 72 wherein the subject's platelet count is greater than 150,000 per microliter.

82. A method as in claim 72 wherein the subject's reticulocyte count is greater than 80×10^9 per liter.

83. A method as in claim 72 wherein the subject's reticulocyte count is greater than 120×10^9 per liter.

84. A method as in claim 72 wherein the subject's reticulocyte count is greater than 150×10^9 per liter.

85. A method of increasing proportion of type III red blood cells of a subject's total red blood cell content comprising administering a compound to the subject, the compound being selected from the group consisting of compounds

which bind to one or more complement components, compounds which block the generation of one or more complement components and compounds which block the activity of one or more complement components.

86. A method as in claim 85 wherein the step of administering comprises administering an anti-C5 antibody.

87. A method as in claim 85 wherein the compound is an anti-C5 antibody selected from the group consisting of h5G1.1-mAb, h5G1.1-scFv and functional fragments of h5G1.1.

88. A method as in claim 85 wherein the amount of PNH type III red blood cells is greater than about 10% of the subject's total red blood cell count.

89. A method as in claim 85 wherein the amount of PNH type III red blood cells is greater than about 25% of the subject's total red blood cell count.

90. A method as in claim 85 wherein the amount of PNH type III red blood cells is greater than about 50% of the subject's total red blood cell count.

91. A method as in claim 85 wherein the subject's platelet count is greater than 40,000 per microliter.

92. A method as in claim 85 wherein the subject's platelet count is greater than 75,000 per microliter.

93. A method as in claim 85 wherein the subject's platelet count is greater than 150,000 per microliter.

94. A method as in claim 85 wherein the subject's reticulocyte count is greater than 80×10^9 per liter.

95. A method as in claim 85 wherein the subject's reticulocyte count is greater than 120 x 10^9 per liter.

96. A method as in claim 85 wherein the subject's reticulocyte count is greater than 150 x 10^9 per liter.

97. A method of reducing hemolysis in a subject comprising administering a compound to the subject, the compound being selected from the group consisting of compounds which bind to one or more complement components, compounds which block the generation of one or more complement components and compounds which block the activity of one or more complement components, wherein hemolysis is reduced within 24 hours of administering the compound.

98. A method as in claim 97 wherein the step of administering comprises administering an anti-C5 antibody.

99. A method as in claim 97 wherein the compound is an anti-C5 antibody selected from the group consisting of h5G1.1-mAb, h5G1.1-scFv and functional fragments of h5G1.1.

100. A method as in claim 97 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 10%.

101. A method as in claim 97 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 25%.

102. A method as in claim 97 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 50%.

103. A method as in claim 97 wherein the subject's platelet count is greater than 40,000 per microliter.

104. A method as in claim 97 wherein the subject's platelet count is greater than 75,000 per microliter.

105. A method as in claim 97 wherein the subject's platelet count is greater than 150,000 per microliter.

106. A method as in claim 97 wherein the subject's reticulocyte count is greater than 80×10^9 per liter.

107. A method as in claim 97 wherein the subject's reticulocyte count is greater than 120×10^9 per liter.

108. A method as in claim 97 wherein the subject's reticulocyte count is greater than 150×10^9 per liter.

109. A method of treating a nitric oxide (NO) deficiency in a subject afflicted with a hemolytic disease comprising administering a compound to the subject, the compound being selected from the group consisting of compounds which bind to one or more complement components, compounds which block the generation of one or more complement components and compounds which block the activity of one or more complement components.

110. A method as in claim 109 wherein the step of administering comprises administering an anti-C5 antibody.

111. A method as in claim 109 wherein the compound is an anti-C5 antibody selected from the group consisting of h5G1.1-mAb, h5G1.1-scFv and functional fragments of h5G1.1.

112. A method as in claim 109 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 10%.

113. A method as in claim 109 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 25%.

114. A method as in claim 109 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 50%.

115. A method as in claim 109 wherein the subject's platelet count is greater than 40,000 per microliter.

116. A method as in claim 109 wherein the subject's platelet count is greater than 75,000 per microliter.

117. A method as in claim 109 wherein the subject's platelet count is greater than 150,000 per microliter.

118. A method as in claim 109 wherein the subject's reticulocyte count is greater than 80×10^9 per liter.

119. A method as in claim 109 wherein the subject's reticulocyte count is greater than 120×10^9 per liter.

120. A method as in claim 109 wherein the subject's reticulocyte count is greater than 150×10^9 per liter.

121. A method of rendering a subject afflicted with a hemolytic disease transfusion independent comprising administering a compound to the subject, the compound being selected from the group consisting of compounds which bind to one or more complement components, compounds which block the

generation of one or more complement components and compounds which block the activity of one or more complement components.

122. A method as in claim 121 wherein the step of administering comprises administering an anti-C5 antibody.

123. A method as in claim 121 wherein the compound is an anti-C5 antibody selected from the group consisting of h5G1.1-mAb, h5G1.1-scFv and functional fragments of h5G1.1.

124. A method as in claim 121 further comprising the step of administering one or more compounds that increase hematopoiesis in combination with said compound.

125. A method as in claim 121 wherein the one or more compounds that increase hematopoiesis is selected from the group consisting of steroids, immunosuppressants, anti-coagulants, folic acid, iron, erythropoietin (EPO), antithymocyte globulin (ATG) and antilymphocyte globulin (ALG).

126. A method as in claim 121 wherein EPO is administered in combination with an anti-C5 antibody selected from the group consisting of h5G1.1-mAb, h5G1.1-scFv and functional fragments of h5G1.1.

127. A method as in claim 121 wherein the subject is transfusion independent for over six months from the first administration of said compound.

128. A method as in claim 121 wherein the subject is transfusion independent for over twelve months from the first administration of said compound.

129. A method as in claim 121 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 10%.

130. A method as in claim 121 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 25%.

131. A method as in claim 121 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 50%.

132. A method as in claim 121 wherein the subject's platelet count is greater than 40,000 per microliter.

133. A method as in claim 121 wherein the subject's platelet count is greater than 75,000 per microliter.

134. A method as in claim 121 wherein the subject's platelet count is greater than 150,000 per microliter.

135. A method as in claim 121 wherein the subject's reticulocyte count is greater than 80×10^9 per liter.

136. A method as in claim 121 wherein the subject's reticulocyte count is greater than 120×10^9 per liter.

137. A method as in claim 121 wherein the subject's reticulocyte count is greater than 150×10^9 per liter.

138. A method of treating a subject afflicted with a hemolytic disease comprising administering: 1) one or more compounds selected from the group consisting of compounds which bind to one or more complement components, compounds which block the generation of one or more complement components and compounds which block the activity of one or more complement

components; in combination with 2) one or more compounds that increase hematopoiesis.

139. A method as in claim 138 wherein the one or more compounds that increase hematopoiesis are selected from the group consisting of steroids, immunosuppressants, anti-coagulants, folic acid, iron, erythropoietin (EPO), antithymocyte globulin (ATG) and antilymphocyte globulin (ALG).

140. A method as in claim 138 wherein EPO is administered in combination with an anti-C5 antibody selected from the group consisting of h5G1.1-mAb, h5G1.1-scFv and functional fragments of h5G1.1.

141. A method as in claim 138 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 10%.

142. A method as in claim 138 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 25%.

143. A method as in claim 138 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 50%.

144. A method as in claim 138 wherein the subject's platelet count is greater than 40,000 per microliter.

145. A method as in claim 138 wherein the subject's platelet count is greater than 75,000 per microliter.

146. A method as in claim 138 wherein the subject's platelet count is greater than 150,000 per microliter.

147. A method as in claim 138 wherein the subject's reticulocyte count is greater than 80×10^9 per liter.

148. A method as in claim 138 wherein the subject's reticulocyte count is greater than 120 x 10^9 per liter.

149. A method as in claim 138 wherein the subject's reticulocyte count is greater than 150 x 10^9 per liter.

150. A method of reducing hemolysis in a subject having a hemolytic disease comprising administering an anti-C5 antibody, wherein hemolysis is reduced as evidenced by a reduction in lactate dehydrogenase (LDH) levels in the subject's bloodstream to within 20% of the upper limit of normal.

151. A method as in claim 150 wherein the anti-C5 antibody is selected from the group consisting of h5G1.1-mAb, h5G1.1-scFv and functional fragments of h5G1.1.

152. A method as in claim 150 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 10%.

153. A method as in claim 150 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 25%.

154. A method as in claim 150 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 50%.

155. A method as in claim 150 wherein the subject's platelet count is greater than 40,000 per microliter.

156. A method as in claim 150 wherein the subject's platelet count is greater than 75,000 per microliter.

157. A method as in claim 150 wherein the subject's platelet count is greater than 150,000 per microliter.

158. A method as in claim 150 wherein the subject's reticulocyte count is greater than 80 x 10^9 per liter.

159. A method as in claim 150 wherein the subject's reticulocyte count is greater than 120 x 10^9 per liter.

160. A method as in claim 150 wherein the subject's reticulocyte count is greater than 150 x 10^9 per liter.

161. A method of reducing hemolysis in a subject having a hemolytic disease comprising administering an anti-C5 antibody, wherein serum complement hemolytic activity is reduced at least 80% as evidenced by a serum hemolytic assay.

162. A method as in claim 161 wherein the anti-C5 antibody is selected from the group consisting of h5G1.1-mAb, h5G1.1-scFv and functional fragments of h5G1.1.

163. A method as in claim 161 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 10%.

164. A method as in claim 161 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 25%.

165. A method as in claim 161 wherein the proportion of type III red blood cells of the subject's total red blood cell content is greater than 50%.

166. A method as in claim 161 wherein the subject's platelet count is greater than 40,000 per microliter.

167. A method as in claim 161 wherein the subject's platelet count is greater than 75,000 per microliter.

168. A method as in claim 161 wherein the subject's platelet count is greater than 150,000 per microliter.

169. A method as in claim 161 wherein the subject's reticulocyte count is greater than 80×10^9 per liter.

170. A method as in claim 161 wherein the subject's reticulocyte count is greater than 120×10^9 per liter.

171. A method as in claim 161 wherein the subject's reticulocyte count is greater than 150×10^9 per liter.